

Our Reference: 600204528-9

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant:	Yaacov Almog
Serial Number:	10/763,625
Filing Date:	January 22, 2004
Confirmation No.:	7724
Examiner/Group Art Unit:	Lawrence D. Ferguson/1794
Title:	COATING SYSTEM FOR SUBSTRATES

APPEAL BRIEF

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Commissioner for Patents
P.O. Box 1450
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Sir:

Please enter the following Appeal Brief in the appeal filed October 22, 2008.

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I. REAL PARTY IN INTEREST

The real party in interest is Assignee Hewlett-Packard Development Company, L.P., a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249, Houston, Texas 77070, U.S.A. (hereinafter referred to as "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, California. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any appeals or any interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 38, 40-43, and 45-47 are the claims on appeal. See, Appendix.

Claims 48 and 51-58 have been withdrawn.

Claims 1-37, 39, 44, 49, and 50 were cancelled.

Claims 38 and 40-43, and 45-47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lever et al. (EP 0 458 481, referred to herein as "Lever") in view of Ellery et al. (U.S. Patent No. 5, 631,078, referred to herein as "Ellery"). In the Final Office Action dated July 22, 2008, the Examiner listed claims 38 and 40-47 under the instant 35 U.S.C. § 103(a) rejection. However, since claim 44 was previously

canceled, it is assumed that the instant 35 U.S.C. § 103(a) rejection is actually over claims 38, 40-43 and 45-47.

IV. STATUS OF AMENDMENTS

In response to the Final Office Action of July 22, 2008, an amendment pursuant to 37 C.F.R. § 1.116 was filed on September 27, 2008. In the advisory action dated October 14, 2008, the Examiner indicated that for purposes of appeal, the amendment filed in response to the Final Office Action of July 22, 2007 would be entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In this summary of claimed subject matter, all citations are to the specification of United States Patent Application 10/763,625. Further, all citations are illustrative, and support for the cited element may be found elsewhere in the specification.

Independent claim 38:

Independent claim 38 is directed to a coated paper substrate configured for printing a toner image thereon. The coated paper substrate includes: a paper substrate (see page 3, lines 10-12 of Appellant's specification as filed); an underlayer coating, applied directly on the substrate, wherein the underlayer coating comprises amine terminated polyamide (see page 3, lines 25-27; page 6, lines 31-32; and page 7, lines 1-7 of Appellant's specification as filed); and an overlayer coating, applied directly on the underlayer coating, comprising a polymer material to which the toner image can be fused and fixed (see page 3, lines 28-29 of Appellant's specification as filed).

Independent claim 43:

Independent claim 43 is directed to a paper-based print media for printing a toner image thereon. The paper-based print media includes: a paper substrate coated with an underlayer having a high affinity for the substrate, and an overlayer having a high affinity for toner, wherein the underlayer and the overlayer have high affinity for each other (see page 2, lines 20-22 and page 3, lines 10-12 of Appellant's specification as filed); wherein the underlayer is applied directly to the substrate and comprises amine terminated polyamide (see page see page 3, lines 25-27; page 6, lines 31-32; and page 7, lines 1-7 of Appellant's specification as filed); and wherein the overlayer is applied directly to the underlayer and comprises a polymer material defining an outer surface to which the toner image can be fused and fixed (see page 3, lines 28-29 of Appellant's specification as filed).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 38 and 40-43 and 45-47 are unpatentable under 35 U.S.C. § 103(a) in view of Lever and Ellery.

VII. ARGUMENTS

A. Rejection under 35 U.S.C. § 103(a) in view of Lever and Ellery

a. Claims 38, 40-43 and 45-47

In the Final Office Action dated July 22, 2008, the Examiner submitted that Lever teaches all of the elements of independent claims 38 and 43, except that the thermoplastic film or sheet of Lever is paper. The Examiner further submitted that Ellery supplies the deficiency of Lever; namely that Ellery teaches *a film having paper* that is conventionally made using cellulose ester fibers. The Examiner concluded that it would

have been obvious to one skilled in the art for the substrate of Lever (i.e., the film) to be a paper substrate in view of the teachings of Ellery.

Appellant's independent claim 38 is directed to a coated **paper** substrate configured for printing a toner image thereon, while independent claim 43 is directed to a **paper-based** print media for printing a toner image thereon. The coated paper substrate of claim 38 and the paper-based print media of claim 43 each include, "a **paper** substrate" (emphasis added).

To reiterate from Appellant's Amendment dated April 29, 2008, Lever is directed to a **polymeric film** (a component of which may include a cellulose ester such as, e.g., cellulose acetate) including a polymeric substrate selected from a thermoplastic material. Appellant submits that Lever does **not** teach a **paper** substrate.

Further, to reiterate from Appellant's Amendment pursuant to 37 C.F.R. § 1.116, filed on September 27, 2008 and in response to the Final Office Action dated July 22, 2008 (referred to herein as "the Amendment of September 27, 2008"), Ellery discloses a thermoplastic film **formed from paper**. More specifically, the thermoplastic film is made from paper containing cellulose pulp and cellulose ester fibers. The paper is then **converted** into the thermoplastic film by application of heat and pressure (see column 2, lines 3-7 of Ellery). Appellant submits, however, that Ellery does **not** teach the formation of **paper**; but rather the formation of a thermoplastic **film** formed **from paper**. Thus, Ellery also does **not** teach a **paper** substrate (as recited in claims 38 and 43).

In Appellant's Amendment dated April 29, 2008, Appellant argued that one skilled in the art would not assume that either of the thermoplastic films or sheets of Lever and Ellery would work as a paper-based printing surface. This is due, at least in part, to the differing chemical and physical properties of cellulose pulp (present in paper) and cellulose acetate (present in the thermoplastic films of Lever and Ellery). For example, when cellulose acetate is compounded with suitable plasticizers (such as in Ellery in column 2, lines 3-11), a thermoplastic product is formed. Such thermoplastic products (which tend to soften when heated, and harden when cooled) are often used in the manufacture of rubber and celluloid materials, as well as in photographic and cinema

films. They are not typically used for printing a toner image thereon. If, however, an image is printed on the thermoplastic product, the printing characteristics of the thermoplastic film tend to be different from those of ordinary paper based at least on its chemical and physical structure and thus, the image would come out differently.

In the Final Office Action dated July 22, 2008, the Examiner rejected Appellant's argument that thermoplastic films or products are not typically used for printing toner images thereon. The Examiner argued that the argument was unsubstantiated, especially since (according to the Examiner) Lever teaches a substrate suitable for printing a toner image thereon (citing page 2, lines 23-58 of Lever).

In response to the Examiner's foregoing argument, in the Amendment dated September 27, 2008, Appellant submitted that Lever does not teach or even suggest (anywhere in Lever, let alone the passage cited by the Examiner) that the polymeric **substrate** is suitable for printing a toner image thereon. In fact, Lever teaches that difficulties have accrued in the prior art for printing images on polymeric substrates because of poor ink-intake properties. As such, as stated in Lever, it is conventional to use an additional ink-receptive layer which is capable of retaining ink markings thereon. (See page 2, lines 2-11 of Lever.) Thus, Lever actually **admits** that polymeric substrates are difficult to print toner images thereon.

Appellant further submitted a Declaration pursuant to 37 C.F.R. § 1.132 of Yaacov Almog (provided herein as Exhibit A) with the Amendment of September 27, 2008 to substantiate the argument that thermoplastic films or products are not generally recognized as being interchangeable with ordinary paper for printing toner images thereon. As stated in the declaration, cellulose pulp (which is found in ordinary paper) and cellulose acetate (which is found in both of the thermoplastic films of Lever and Ellery) have differing chemical and physical properties that affect their printing characteristics. For at least this reasoning, it is submitted that one skilled in the art would not be led to use the thermoplastic films in place of ordinary paper as a suitable substrate for printing a toner image thereon.

In the Advisory Action dated October 14, 2008, the Examiner admits that Ellery teaches forming a thermoplastic film. The Examiner argues, however, that Ellery teaches that the thermoplastic film is made from a paper containing material, where the paper containing material is primarily made from cellulose ester fibers (citing column 1, line 53 through column 2, line 6 of Ellery). The Examiner interprets the cellulose ester material of Lever and Ellery as a paper-based material.

Appellant submits, however, that the Examiner is misunderstanding the difference between cellulose fibers and cellulose ester fibers. Referring again to the Declaration of Yaacov Almog, ordinary paper generally includes cellulose pulp. Cellulose acetate (which is present not only in Ellery (as admitted by the Examiner), but also in Lever) when compounded with suitable plasticizers forms a relatively tough thermoplastic product. Appellant submits that cellulose acetate (the acetate ester of cellulose) is not cellulose pulp and one would not consider the cellulose acetate combined with a plasticizer (as disclosed in Ellery at column 1, lines 53-56) to be paper. Thus, it is submitted that the cellulose acetate is not a paper-based material (as interpreted by the Examiner stated above).

In the Advisory Action dated October 14, 2008, the Examiner also argued that claims 38 and 43 do not limit the paper substrate to ordinary paper having certain chemical and/or physical properties or characteristics (as supported by the Declaration of Yaacov Almog). The Examiner interprets the recitation of “paper substrate” with its broadest reasonable interpretation in light of the supporting disclosure and concludes that the recitation of a “paper substrate” includes both cellulose ester fibers and cellulose pulp.

Appellant agrees with the Examiner that the recitation of a “paper substrate” should be given its broadest reasonable interpretation (see MPEP § 2111, which states that “the claims must be given their broadest reasonable interpretation **consistent with the specification**” (emphasis added)). However, as clearly argued above and supported by the Declaration of Yaacov Almog, cellulose acetate or cellulose ester fibers (as clearly disclosed in Ellery at column 1, lines 53-56) are used to form a

thermoplastic substrate; ***not a paper*** substrate. Based at least on the teachings of Ellery, a skilled artisan would ***not*** arrive at a conclusion that a paper substrate would include cellulose acetate or cellulose ester fibers, based on the teachings of Ellery.

For all of the reasons stated above, it is submitted that one skilled in the art would not combine the teachings of Lever and Ellery to establish all of the elements of independent claims 38 and 43. As such, it is further submitted that Appellant's invention as defined in claims 38 and 43, and in those claims depending ultimately therefrom, is not anticipated, taught, or rendered obvious by Lever and Ellery, either alone or in combination, and patentably defines over the art of record.

SUMMARY

The Appellant respectfully submits that claims 38, 40-43, and 45-47 as currently pending fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. In view of the foregoing, favorable consideration and passage to issue of the present application is respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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JCD/AMS

VIII. CLAIMS APPENDIX

1 - 37. (Cancelled)

38. (Previously presented) A coated paper substrate configured for printing a toner image thereon, comprising:

a paper substrate;

an underlayer coating, applied directly on the substrate, wherein the underlayer coating comprises amine terminated polyamide; and

an overlayer coating, applied directly on the underlayer coating, comprising a polymer material to which the toner image can be fused and fixed.

39. (Cancelled)

40. (Previously presented) The coated substrate according to claim 38 wherein the overlayer coating is free of particulate matter.

41. (Previously presented) The coated substrate according to claim 38 wherein the polymer material comprises styrene butadiene copolymer.

42. (Previously presented) The coated substrate according to claim 38 wherein the polymer material comprises ethylene acrylic acid copolymer.

43. (Previously presented) A paper-based print media for printing a toner image thereon, comprising:

a paper substrate coated with an underlayer having a high affinity for the substrate, and an overlayer having a high affinity for toner, wherein the underlayer and the overlayer have high affinity for each other;

wherein the underlayer is applied directly to the substrate and comprises amine terminated polyamide; and

wherein the overlayer is applied directly to the underlayer and comprises a polymer material defining an outer surface to which the toner image can be fused and fixed.

44. (Canceled)

45. (Previously presented) The print media according to claim 43 wherein the underlayer is free of particulate matter.

46. (Previously presented) The print media according to claim 43 wherein the overlayer comprises styrene butadiene copolymer.

47. (Previously presented) The print media according to claim 43 wherein the overlayer comprises ethylene acrylic acid copolymer.

48. (Withdrawn, previously presented) A method of producing a coated paper substrate to which a toner image can be adhered, comprising:

coating a paper substrate with an underlayer comprising amine terminated polyamide; and

coating the underlayer with a polymer material to form an overlayer on the underlayer, wherein the overlayer has a high affinity for the underlayer and an outer surface to which the toner image can be applied.

49. (Canceled)

50. (Canceled)

51. (Withdrawn, previously presented) The method of claim 48, wherein coating the paper substrate comprises applying 0.1 to 0.3 grams of solids to the paper substrate per square meter of the paper substrate.

52. (Withdrawn, previously presented) The method of claim 48, wherein coating the paper substrate comprises:

mixing a 19-to-1 ratio of 1-Propanal to Macromelt 6239 (Henkel);

stirring the mixture; and

heating the mixture to between 40 degrees C. and 50 degrees C., until a homogeneous and clear 5% solids solution is obtained.

53. (Withdrawn, previously presented) The method of claim 48, wherein coating the paper substrate comprises:

coating the paper substrate with a partial solids solution; and

letting the partial solids solution dry.

54. (Withdrawn) The method of claim 53, wherein the partial solids solution is a 5% solids solution.

55. (Withdrawn) The method of claim 48, wherein coating the underlayer comprises:

combining deionized water and isopropyl alcohol to form a mixture;

cooling the mixture; and

adding the mixture to a dispersion of MP 4990.

56. (Withdrawn) The method of claim 55, wherein the dispersion of MP 4990 is in a range of 32% to 35%.

57. (Withdrawn) The method of claim 48, wherein coating the underlayer comprises:

applying 0.3 to 0.5 grams of the polymer material per square meter of underlayer.

58. (Withdrawn) The method of claim 48, wherein coating the underlayer comprises:

drying the underlayer before applying the outerlayer.

IX. EVIDENCE APPENDIX

1. Declaration pursuant to 37 C.F.R. § 1.132 of Yaacov Almog dated September 24, 2008 (referred to herein as "Exhibit A").

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X. RELATED PROCEEDINGS APPENDIX

None.